

5 providing an article with one or more reactive components on a surface of the  
6 article having a greater affinity or solubility to one of the at least two fluids;  
7 positioning the article into one of the at least two fluids; and  
8 treating one or more of the reactive components on the article surface by  
9 passing the article through at least one fluid interface vertically,  
10 horizontally, or at any other orientation.

1 11. (Amended) The method of claim 1 wherein the positioned article is mixed  
2 at an elevated temperature and further including the steps of ceasing the mixing at  
3 an elevated temperature and cooling the fluids such that the fluid having a higher  
4 density with an affinity for the reactive component settles and passing the article  
5 through the fluid interface.

1 12. (Amended) A method of preparing a workpiece surface comprising the  
2 steps of:

3 providing a reaction vessel having a first inlet/outlet means located at a bottom  
4 of the vessel and a second inlet/outlet means located above the first outlet  
5 means;

6 providing a first fluid into the reaction vessel;

7 providing at least one other fluid into the reaction vessel, the at least one other  
8 fluid having a higher density than the first fluid such that a fluid interface  
9 exists between the first fluid and the at least one other fluid;

10 providing a workpiece having a surface component having a greater affinity or  
11 solubility to either the first fluid or the at least one other fluid;  
12 submerging the workpiece into the reaction vessel having the first fluid and the  
13 at least one other fluid such that the workpiece is below the fluid interface;  
14 treating the surface component by passing the workpiece through the fluid  
15 interface; and  
16 terminating the treating step.

1 16. Amended The method of claim 15 wherein the treating step comprises  
2 lifting the workpiece through the fluid interface into the first fluid which has  
3 substantially no affinity for the surface component.

1 17. (Amended) The method of claim 12 further including the step of heating  
2 the first fluid and at least one other fluid into solution after submerging the  
3 workpiece into the reaction vessel such that upon cooling, the first fluid and the at  
4 least one other fluid are immiscible with the fluid interface present and the  
5 workpiece is substantially present in only one of the fluid layers.

1 18. (Amended) The method of claim 12 further including the step of agitating  
2 the first fluid and the at least one other fluid after submerging the workpiece into  
3 the reaction vessel such that upon ceasing agitation, the first fluid and the at least

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one other fluid are immiscible with the fluid interface present and the surface component is present in only one of the fluids.

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24. (Amended) The method of claim 23 further including the step of removing the water layer from the reaction vessel when the step of stripping the water and water soluble impurities is completed if the workpiece is positioned below the water layer.

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25. (Amended) A method of removing a surface component from a workpiece surface comprising the steps of:

providing an etchant fluid;

providing at least one fluid immiscible with the etchant fluid having a different density than the etchant fluid and forming a fluid interface therebetween;

positioning a workpiece in the etchant fluid to facilitate etching of a surface component on the workpiece; and

terminating etching of the surface component when the workpiece is passed through the fluid interface into the at least one fluid immiscible with the etchant fluid.

26. (Amended) The method of claim 25 wherein the step of providing at least one fluid immiscible with the etchant fluid comprises providing two fluids

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- 4 immiscible with the etchant fluid, both fluids having a lower density than the etchant fluid and immiscible with each other such that a first fluid interface exists
- 5 between the two fluids and the etchant fluid and a second fluid interface exists
- 6 between the two fluids.
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